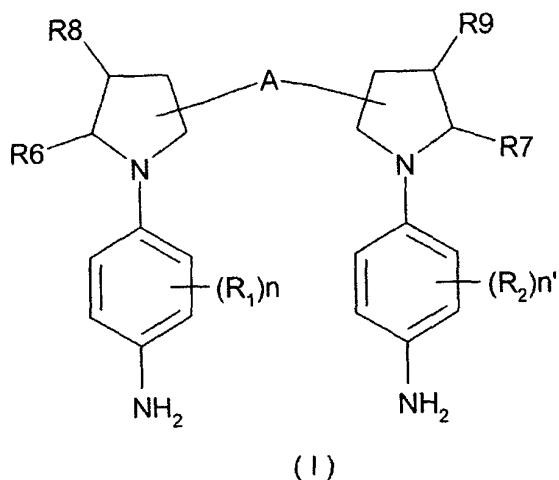


WHAT IS CLAIMED IS:

1. A compound chosen from bis-para-phenylenediamine derivatives substituted with at least one pyrrolidyl group, wherein said pyrrolidyl-substituted bis-para-phenylenediamine derivatives are chosen from derivatives corresponding to formula (I) and the corresponding salts thereof:



wherein:

- n and n' , which may be identical or different, are integers ranging from 0 to 4, wherein if either n or n' is greater than or equal to 2, then R_1 and R_2 may be identical or different;
- R_1 and R_2 , which may be identical or different, are each chosen from halogen atoms and C_1 - C_6 hydrocarbon-based chains which may be aliphatic, alicyclic, saturated or unsaturated, wherein at least one of the carbon atoms of the chain may optionally be replaced with at least one entity chosen from oxygen, nitrogen, silicon, and sulphur atoms, SO groups, and SO_2 groups, with the proviso that R_1 and R_2 do not comprise a peroxide bond or a diazo, nitro, or nitroso radical, and wherein the chain may be substituted with at least one entity chosen from halogen atoms and hydroxyl, C_1 - C_6

alkoxy, amino, mono-, di(C₁-C₆)alkylamino and tri(C₁-C₆)alkylammonium radicals, and N-(C₁-C₆)alkylimidazolinium radicals;

- A is chosen from a covalent bond and linear and branched, saturated and unsaturated alkylene chains comprising from 1 to 14 carbon atoms, and wherein at least one of the carbon atoms of the chain may optionally be replaced with an entity chosen from: onium radical Z, oxygen, sulphur, silicon and nitrogen atoms, and CO, SO, and SO₂ groups, wherein the alkylene chains may optionally be substituted with at least one entity chosen from: halogen atoms, hydroxyl, C₁-C₆ alkoxy, amino, (C₁-C₆)alkylamino, and di(C₁-C₆)alkylamino radicals;
- R₆ and R₇, which may be identical or different, are chosen from: hydrogen atoms; carboxyl radicals; (C₁-C₄)alkylcarboxyl radicals; carbamoyl radicals; (C₁-C₄)(alkyl)carbamoyl radicals; (dialkyl)carbamoyl radicals; tri(C₁-C₆)alkylsilane radicals; tri((C₁-C₆)alkyl)ammonium radicals; N-(C₁-C₆)alkylimidazolinium radicals; C₁-C₁₅ alkyl radicals; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one entity chosen from hydroxyl, (C₁-C₆)alkyloxy, amino, mono- and di(C₁-C₆)alkylamino, thiol, and (C₁-C₆)alkylsulphonic radicals, and halogen atoms; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one radical chosen from carboxylic, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkoxycarbonyl, carbamoyl, mono- and di(C₁-C₆)alkylcarbamoyl, tri(C₁-C₆)alkylsilane, tri((C₁-C₆)alkyl)ammonium and N-(C₁-C₆)alkylimidazolinium radicals;
- R₈ and R₉, which may be identical or different, are chosen from: hydrogen atoms; hydroxyl radicals; (C₁-C₄)alkyloxy radicals; amino radicals; mono- and di(C₁-C₄)alkylamino radicals; thiol radicals; carboxyl radicals; (C₁-C₄)alkylcarboxyl radicals; carbamoyl radicals; (C₁-C₄)(alkyl and/or dialkyl)carbamoyl radicals; tri(C₁-C₆)alkylsilane

radicals; tri((C₁-C₆)alkyl)ammonium radicals; N-(C₁-C₆)alkylimidazolinium radicals; C₁-C₁₅ alkyl radicals; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one entity chosen from: hydroxyl, (C₁-C₆)alkyloxy, amino, mono- and di(C₁-C₆)alkylamino, thiol, and (C₁-C₆)alkylsulphonic radicals, and halogen atoms; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one radical chosen from: carboxylic, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkoxycarbonyl, carbamoyl, mono- and di(C₁-C₆)alkylcarbamoyl, tri(C₁-C₆)alkylsilane, tri((C₁-C₆)alkyl)ammonium, and N-(C₁-C₆)alkylimidazolinium radicals.

2. The compound according to Claim 1, wherein n and n', which may be identical or different, are equal to 0 or 1.

3. The compound according to Claim 1, wherein R₁ and R₂, which may be identical or different, are chosen from a chlorine atom, a bromine atom, C₁-C₄ alkyl radicals, C₁-C₄ hydroxyalkyl radicals, C₁-C₄ aminoalkyl radicals, C₁-C₄ alkoxy radicals, C₁-C₄ hydroxyalkoxy radicals, tri(C₁-C₄)alkylammonium(C₁-C₄)alkyl radicals, and N-(C₁-C₄)alkylimidazolinium(C₁-C₄)alkyl radicals.

4. The compound according to Claim 3, wherein R₁ and R₂, which may be identical or different, are chosen from methyl, isopropyl, tert-butyl, hydroxymethyl, 2-hydroxyethyl, 1,2-dihydroxyethyl, methoxy, isopropoxy, 2-hydroxyethoxy, trimethylammoniummethyl, and N-methylimidazolinium radicals.

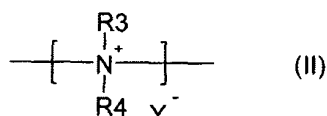
5. The compound according to Claim 1, wherein A does not comprise a peroxide bond or a diazo, nitro or nitroso radical.

6. The compound according to Claim 1, wherein A is chosen from a covalent bond and alkylene chains comprising from 1 to 8 carbon atoms.

7. The compound according to Claim 1, wherein A is chosen from alkylene chains comprising from 1 to 8 carbon atoms, wherein at least one of the carbon atoms of the chain may optionally be replaced with an entity chosen from nitrogen and oxygen atoms.

8. The compound according to Claim 1, wherein A is an alkylene chain comprising from 1 to 14 carbon atoms, and comprising at least one onium radical Z, wherein at least one carbon atom of the chain may optionally be replaced with an entity chosen from nitrogen and oxygen atoms.

9. The compound according to Claim 1, wherein the onium radical Z corresponds to formula (II):



wherein:

- R_3 and R_4 , which may be identical or different, are chosen from $\text{C}_1\text{-C}_{15}$ alkyl radicals; $\text{C}_1\text{-C}_6$ monohydroxyalkyl radicals; $\text{C}_2\text{-C}_6$ polyhydroxyalkyl radicals; $(\text{C}_1\text{-C}_6)\text{alkoxy}(\text{C}_1\text{-C}_6)\text{alkyl}$ radicals; aryl radicals; benzyl radicals; amido $(\text{C}_1\text{-C}_6)\text{alkyl}$ radicals; tri $(\text{C}_1\text{-C}_6)\text{alkylsilane}(\text{C}_1\text{-C}_6)\text{alkyl}$ radicals; $\text{C}_1\text{-C}_6$ aminoalkyl radicals; $\text{C}_1\text{-C}_6$ aminoalkyl radicals, wherein the amines are mono- and/or disubstituted with at least one entity chosen from $\text{C}_1\text{-C}_4$ alkyl, $(\text{C}_1\text{-C}_6)\text{alkylcarbonyl}$, amido, and $(\text{C}_1\text{-C}_6)\text{alkylsulphonyl}$ radicals;
- R_3 and R_4 , together with the nitrogen atom to which they are attached, form a 5-, 6- or 7-membered heterocycle;
- when at least two onium radicals of formula (II) are present in the chain A, at least one of the radicals R_3 and R_4 of one of the onium radicals may form a cyclic diammonium

structure with at least one of the radicals R_3 and R_4 of the at least one other onium radical; and

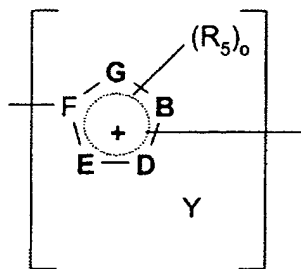
- Y^- is a counterion.

10. The compound according to Claim 9, wherein R_3 and R_4 , which may be identical or different, are chosen from C_1 - C_4 alkyl radicals and C_1 - C_4 hydroxyalkyl radicals.

11. The compound according to Claim 9, wherein R_3 and R_4 together form a cationic ring chosen from pyrrolidinium, piperidinium, piperazinium and morpholinium rings, wherein the cationic ring may optionally be substituted with at least one entity chosen from halogen atoms, hydroxyl, C_1 - C_6 alkyl, C_1 - C_6 monohydroxyalkyl, C_2 - C_6 polyhydroxyalkyl, C_1 - C_6 alkoxy, tri(C_1 - C_6)alkylsilane(C_1 - C_6)alkyl, amido, carboxyl, (C_1 - C_6)alkyl, thio, C_1 - C_6 thioalkyl, (C_1 - C_6)alkylthio, amino, amino mono- or disubstituted with a (C_1 - C_6)alkyl radical, (C_1 - C_6)alkylcarbonyl, amido and (C_1 - C_6)alkylsulphonyl radicals.

12. The compound according to Claim 11, wherein R_3 and R_4 combined form a cationic ring chosen from pyrrolidinium, piperidinium and morpholinium rings.

13. The compound according to Claim 1, wherein the onium radical Z is chosen from radicals of formula (III):



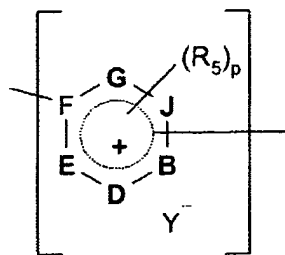
(III)

wherein:

- the ring members B, D, E, F and G, which may be identical or different, are chosen from carbon, oxygen, sulphur and nitrogen atoms, such that B, D, E, F, and G are selected so as to form an aromatic ring cationized on the nitrogen, wherein the ring is chosen from pyrrolium, pyrazolium, imidazolium, triazolium, oxazolium, isoxazolium, thiazolium and isothiazolium rings;
- o is an integer ranging from 0 to 4 ;
- R_5 , which may be identical or different, is chosen from C_1 - C_6 alkyl radicals, C_1 - C_6 monohydroxyalkyl radicals, C_2 - C_6 polyhydroxyalkyl radicals, tri(C_1 - C_6)alkylsilane(C_1 - C_6)alkyl radicals, (C_1 - C_6)alkoxy(C_1 - C_6)alkyl radicals, carbamyl(C_1 - C_6)alkyl radicals, (C_1 - C_6)alkylcarboxy(C_1 - C_6)alkyl radicals and benzyl radicals; and when the at least one radical R_5 is attached to a carbon, R_5 may also be a radical chosen from hydroxyl, (C_1 - C_4)alkyloxy, amino, (C_1 - C_4)alkylamino and di(C_1 - C_4)alkylamino radicals, and
- Y^- is a counterion.

14. The compound according to Claim 13, wherein the cationic aromatic ring is chosen from imidazolium rings and thiazolium rings.

15. The compound according to Claim 1, wherein the onium radical Z is chosen from radicals of formula (IV):



(IV)

wherein:

- the ring members B, D, E, F, G and J, which may be identical or different, are chosen from carbon and nitrogen atoms, such that B, D, E, F, G, and J are selected so as to form an aromatic ring cationized on the nitrogen, wherein the ring is chosen from pyridinium, pyrimidinium, pyrazinium, triazinium and pyridazinium rings;
- p is an integer ranging from 0 to 4;
- R₅, which may be identical or different, is chosen from C₁-C₆ alkyl radicals, C₁-C₆ monohydroxyalkyl radicals, C₂-C₆ polyhydroxyalkyl radicals, tri(C₁-C₆)alkylsilane(C₁-C₆)alkyl radicals, (C₁-C₆)alkoxy(C₁-C₆)alkyl radicals, carbamyl(C₁-C₆)alkyl radicals, (C₁-C₆)alkylcarboxy(C₁-C₆)alkyl radicals, and benzyl radicals; and when the at least one radical R₅ is attached to a ring member chosen from carbon, R₅ may optionally be a radical chosen from hydroxyl, (C₁-C₄)alkyloxy, (C₁-C₄)alkylamino and di(C₁-C₄)alkylamino radicals, and
- Y⁻ is a counterion.

16. The compound according to Claim 15, wherein the onium radical Z of formula (IV) is a cationized pyridinium ring.

17. The compound according to Claim 13, wherein R₅ is a radical chosen from C₁-C₄ alkyl and C₁-C₄ hydroxyalkyl radicals.

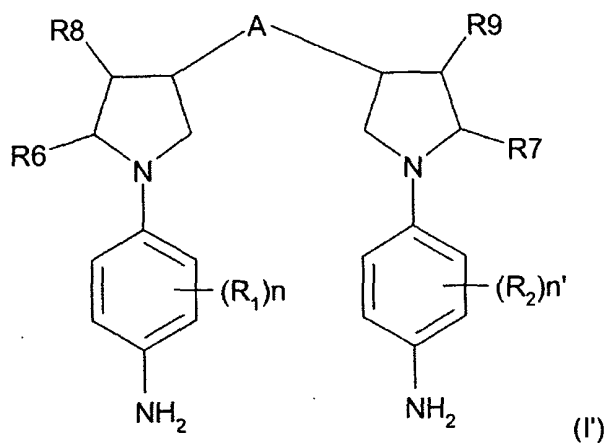
18. The compound according to Claim 15, wherein R₅ is a radical chosen from C₁-C₄ alkyl and C₁-C₄ hydroxyalkyl radicals.

19. The compound according to Claim 1, wherein R₆ and R₇, which may be identical or different, are chosen from a hydrogen atom, C₁-C₄ hydroxyalkyl radicals, C₁-C₄ alkyl radicals, carboxyl radicals, carbamoyl radicals, mono- and di((C₁-C₄)alkyl)carbamoyl

radicals, tri(C₁-C₄)alkylammonium(C₁-C₄)alkyl radicals, and N-(C₁-C₄)alkylimidazolium(C₁-C₄)alkyl radicals.

20. The compound according to Claim 1, wherein R₈ and R₉, which may be identical or different, are chosen from hydrogen atoms, hydroxyl radicals, amino radicals, mono- and di(C₁-C₄)alkylamino radicals, C₁-C₄ alkyl radicals, tri(C₁-C₄)alkylammonium radicals, and N-(C₁-C₄)alkylimidazolinium radicals.

21. A compound chosen from bis-para-phenylenediamine derivatives substituted with at least one pyrrolidyl group, wherein said pyrrolidyl-substituted bis-para-phenylenediamine derivatives are chosen from derivatives corresponding to formula (I') and the corresponding salts thereof:



wherein:

- n and n', which may be identical or different, are integers ranging from 0 to 4, wherein if either n or n' is greater than or equal to 2, then R₁ and R₂ may be identical or different;
- R₁ and R₂, which may be identical or different, are each chosen from halogen atoms and C₁-C₆ hydrocarbon-based chains which may be aliphatic, alicyclic, saturated or

unsaturated, wherein at least one of the carbon atoms of the chain may optionally be replaced with at least one entity chosen from oxygen, nitrogen, silicon, and sulphur atoms, SO groups, and SO₂ groups, with the proviso that R₁ and R₂ do not comprise a peroxide bond or a diazo, nitro, or nitroso radical, and wherein the chain may be substituted with at least one entity chosen from halogen atoms and hydroxyl, C₁-C₆ alkoxy, amino, mono-, di(C₁-C₆)alkylamino, and tri(C₁-C₆)alkylammonium radicals, and N-(C₁-C₆)alkylimidazolinium radicals;

- A is chosen from a covalent bond and alkylene chains comprising from 1 to 14 carbon atoms, wherein the chains may be linear, branched, saturated or unsaturated, and wherein at least one of the carbon atoms of the chain may optionally be replaced with an entity chosen from: onium radical Z, oxygen, sulphur, silicon, and nitrogen atoms, and CO, SO, and SO₂ groups, wherein the alkylene chains may optionally be substituted with at least one entity chosen from: halogen atoms, hydroxyl, C₁-C₆ alkoxy, amino, (C₁-C₆)alkylamino, and di(C₁-C₆)alkylamino radicals;
- R₆ and R₇, which may be identical or different, are chosen from: hydrogen atoms; carboxyl radicals; (C₁-C₄)alkylcarboxyl radicals; carbamoyl radicals; (C₁-C₄)(alkyl)carbamoyl radicals; (dialkyl)carbamoyl radicals; tri(C₁-C₆)alkylsilane radicals; tri((C₁-C₆)alkyl)ammonium radicals; N-(C₁-C₆)alkylimidazolinium radicals; C₁-C₁₅ alkyl radicals; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one entity chosen from hydroxyl, (C₁-C₆)alkyloxy, amino, mono- and di(C₁-C₆)alkylamino, thiol, and (C₁-C₆)alkylsulphonic radicals, and halogen atoms; C₁-C₁₅ alkyl radicals which may optionally be unsaturated, and/or substituted with at least one radical chosen from carboxylic, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkoxycarbonyl, carbamoyl,

mono- and di(C₁-C₆)alkylcarbamoyl, tri(C₁-C₆)alkylsilane, tri((C₁-C₆)alkyl)ammonium, and N-(C₁-C₆)alkylimidazolinium radicals;

- R₈ and R₉, which may be identical or different, are chosen from: hydrogen atoms; hydroxyl radicals; (C₁-C₄)alkyloxy radicals; amino radicals; mono- and di(C₁-C₄)alkylamino radicals; thiol radicals; carboxyl radicals; (C₁-C₄)alkylcarboxyl radicals; carbamoyl radicals; (C₁-C₄)(alkyl and/or dialkyl)carbamoyl radicals; tri(C₁-C₆)alkylsilane radicals; tri((C₁-C₆)alkyl)ammonium radicals; N-(C₁-C₆)alkylimidazolinium radicals; C₁-C₁₅ alkyl radicals; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one entity chosen from: hydroxyl, (C₁-C₆)alkyloxy, amino, mono- and di(C₁-C₆)alkylamino, thiol, and (C₁-C₆)alkylsulphonic radicals, and halogen atoms; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one radical chosen from: carboxylic, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkoxycarbonyl, carbamoyl, mono- and di(C₁-C₆)alkylcarbamoyl, tri(C₁-C₆)alkylsilane, tri((C₁-C₆)alkyl)ammonium, and N-(C₁-C₆)alkylimidazolinium radicals.

22. The compound according to Claim 21, wherein

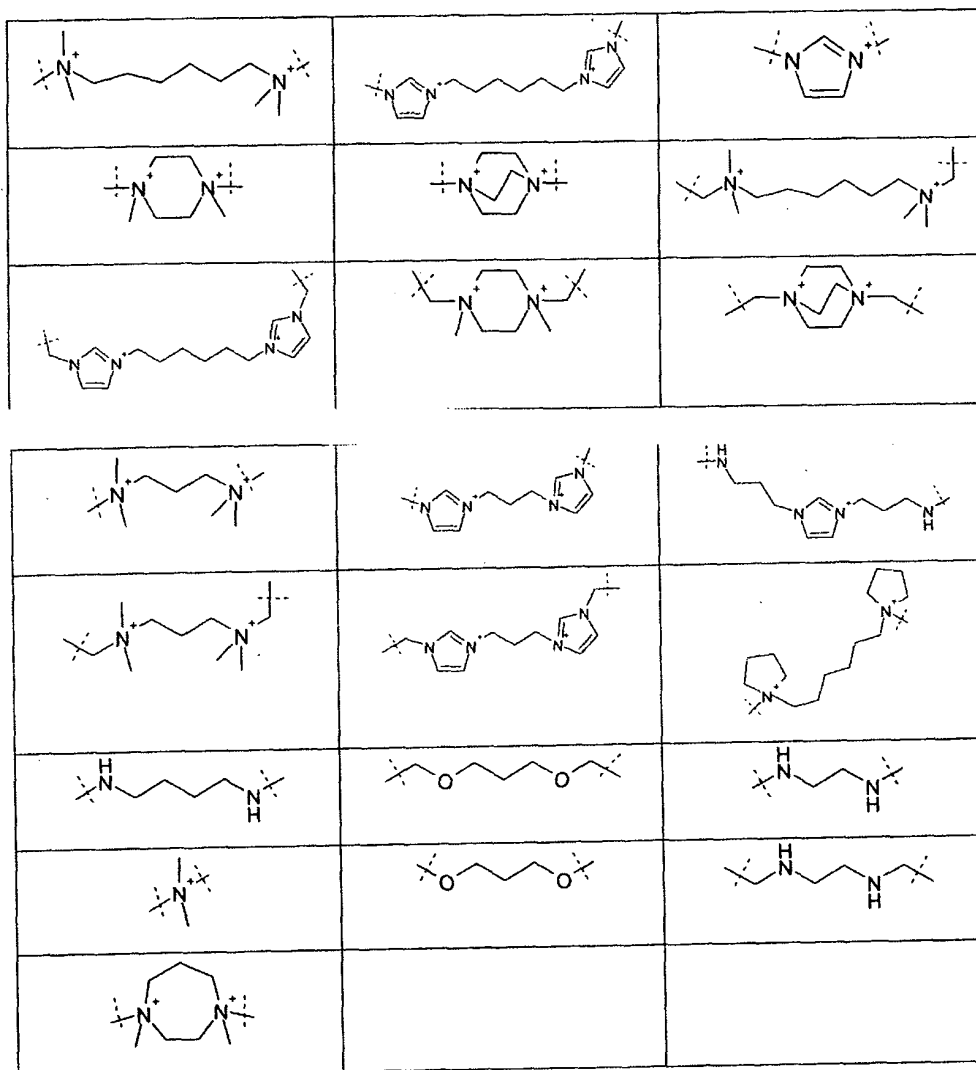
n and n', which may be identical or different, are equal to 0 or 1;

R₁ and R₂, which may be identical or different, are chosen from methyl, isopropyl, tert-butyl, hydroxymethyl, 2-hydroxyethyl, 1,2-dihydroxyethyl, methoxy, isopropoxy, 2-hydroxyethoxy, trimethylammoniummethyl, and N-methylimidazoliniummethyl radicals;

R₆ and R₇, which may be identical or different, are chosen from a hydrogen atom, C₁-C₄ hydroxyalkyl radicals, C₁-C₄ alkyl radicals, carboxyl radicals, carbamoyl radicals, mono- and di(C₁-C₄)alkylcarbamoyl radicals, tri(C₁-C₄)alkylammonium(C₁-C₄)alkyl radicals, and N-alkyl(C₁-C₄)imidazoliumalkyl radicals;

R_8 and R_9 , which may be identical or different, are chosen from hydrogen atoms, hydroxyl radicals, amino radicals, mono- and di((C₁-C₄)alkyl)amino radicals, C₁-C₄ alkyl radicals, tri(C₁-C₄)alkylammonium radicals, and N-(C₁-C₄)alkylimidazolinium radicals;

A is a covalent bond or a radical chosen from:



23. The compound according Claim 1, chosen from

- N,N'-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride,

- 3-[1-(4-aminophenyl)pyrrolidin-3-yl]-1-(6-{1-[1-(4-aminophenyl)pyrrolidin-3-yl]-1H-imidazol-3-ium-3-yl}hexyl)-1H-imidazol-3-ium dichloride,
- 1,3-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-1H-imidazol-3-ium chloride,
- 1,4-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-1,4-dimethylpiperazinedium dichloride,
- 1,4-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-1,4-diazoniabicyclo[2.2.2]octane dichloride,
- N,N'-bis[1-(4-aminophenyl)pyrrolidin-2-yl]methyl-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride,
- 3-[[1-(4-amino-3-methylphenyl)pyrrolidin-2-yl]methyl]-1-[6-(1-[[1-(4-amino-3-methylphenyl)pyrrolidin-2-yl]methyl]-1H-imidazol-3-ium-3-yl)hexyl]-1H-imidazol-3-ium dichloride,
- 1,4-bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-1,4-dimethylpiperazinedium dichloride,
- 1,4-bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-1,4-diazoniabicyclo[2.2.2]octane dichloride,
- N,N'-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride,
- 3-[1-(4-aminophenyl)pyrrolidin-3-yl]-1-(3-{1-[1-(4-aminophenyl)pyrrolidin-3-yl]-1H-imidazol-3-ium-3-yl}propyl)-1H-imidazol-3-ium dichloride,
- N,N'-bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride,
- 3-[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-1-[3-(1-[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-1H-imidazol-3-ium-3-yl)propyl]-1H-imidazol-3-ium dichloride,
- 1,3-bis(3-[[1-(4-aminophenyl)pyrrolidin-3-yl]amino]propyl)-1H-imidazol-3-ium chloride,

- N,N'-bis[1-(4-aminophenyl)-5-(hydroxymethyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride,
- 3-[[1-(4-aminophenyl)-4-hydroxypyrrolidin-2-yl]methyl]-1-[3-(1-[[1-(4-aminophenyl)-4-hydroxypyrrolidin-2-yl]methyl]-1H-imidazol-3-ium-3-yl)propyl]-1H-imidazol-3-ium dichloride,
- 4-[1'-(4-aminophenyl)-2,2'-bipyrrolidin-1-yl]phenylamine,
- N,N'-bis[1-(4-aminophenyl)pyrrolidin-5-amido-3-yl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride,
- N,N'-bis[1-(4-aminophenyl)pyrrolidin-3-yl]butane-1,2-diamine,
- 1,3-bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methoxy]propane,
- N,N'-bis[[1-(4-aminophenyl)-4-hydroxypyrrolidin-2-yl]methyl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride,
- N,N'-bis[1-(4-aminophenyl)pyrrolidin-3-yl]ethane-1,2-diamine, and
- N,N'-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-N,N'-dipyrrolidinehexane-1,6-diaminium dichloride.

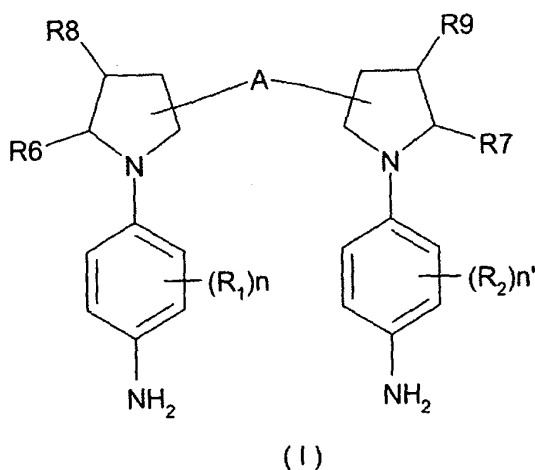
24. The compound according Claim 23, chosen from

- N,N'-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride,
- 3-[1-(4-aminophenyl)pyrrolidin-3-yl]-1-(6-{1-[1-(4-aminophenyl)pyrrolidin-3-yl]-1H-imidazol-3-ium-3-yl}hexyl)-1H-imidazol-3-ium dichloride,
- 1,3-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-1H-imidazol-3-ium chloride,
- 1,4-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-1,4-dimethylpiperazinedium dichloride,
- 1,4-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-1,4-diazoniabicyclo[2.2.2]octane dichloride,

- N,N'-bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride,
- 3-[[1-(4-amino-3-methylphenyl)pyrrolidin-2-yl]methyl]-1-[6-(1-[[1-(4-amino-3-methylphenyl)pyrrolidin-2-yl]methyl]-1H-imidazol-3-ium-3-yl)hexyl]-1H-imidazol-3-ium dichloride,
- 1,4-bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-1,4-dimethylpiperazinediium dichloride,
- 1,4-bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-1,4-diazoniabicyclo[2.2.2]octane dichloride,
- N,N'-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride,
- 3-[1-(4-aminophenyl)pyrrolidin-3-yl]-1-(3-{1-[1-(4-aminophenyl)pyrrolidin-3-yl]-1H-imidazol-3-ium-3-yl}propyl)-1H-imidazol-3-ium dichloride,
- N,N'-bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride,
- 3-[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-1-[3-(1-[[1-(4-aminophenyl)pyrrolidin-2-yl]methyl]-1H-imidazol-3-ium-3-yl)propyl]-1H-imidazol-3-ium dichloride,
- 1,3-bis(3-{[1-(4-aminophenyl)pyrrolidin-3-yl]amino}propyl)-1H-imidazol-3-ium chloride,
- N,N'-bis[1-(4-aminophenyl)-5-(hydroxymethyl)pyrrolidin-3-yl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride,
- 3-[[1-(4-aminophenyl)-4-hydroxypyrrolidin-2-yl]methyl]-1-[3-(1-[[1-(4-aminophenyl)-4-hydroxypyrrolidin-2-yl]methyl]-1H-imidazol-3-ium-3-yl)propyl]-1H-imidazol-3-ium dichloride,

- 4-[1'-(4-aminophenyl)-2,2'-bipyrrolidin-1-yl]phenylamine,
- N,N'-bis[1-(4-aminophenyl)pyrrolidin-5-amido-3-yl]-N,N,N',N'-tetramethylhexane-1,6-diaminium dichloride,
- N,N'-bis[1-(4-aminophenyl)pyrrolidin-3-yl]butane-1,2-diamine,
- 1,3-bis[[1-(4-aminophenyl)pyrrolidin-2-yl]methoxy]propane,
- N,N'-bis[[1-(4-aminophenyl)-4-hydroxypyrrolidin-2-yl]methyl]-N,N,N',N'-tetramethylpropane-1,3-diaminium dichloride,
- N,N'-bis[1-(4-aminophenyl)pyrrolidin-3-yl]ethane-1,2-diamine, and
- N,N'-bis[1-(4-aminophenyl)pyrrolidin-3-yl]-N,N'-dipyrrolidinehexane-1,6-diaminium dichloride.

25. A dye composition comprising at least one oxidation base comprising at least one pyrrolidyl-substituted bis-para-phenylenediamine derivative chosen from derivatives of formula (I) and the corresponding salts thereof:



wherein:

- n and n', which may be identical or different, are integers ranging from 0 to 4, wherein if either n or n' is greater than or equal to 2, then R₁ and R₂ may be identical or different;
- R₁ and R₂, which may be identical or different, are each chosen from halogen atoms and C₁-C₆ hydrocarbon-based chains which may be aliphatic, alicyclic, saturated or unsaturated, wherein at least one of the carbon atoms of the chain may optionally be replaced with at least one entity chosen from oxygen, nitrogen, silicon, and sulphur atoms, SO groups, and SO₂ groups, with the proviso that R₁ and R₂ do not comprise a peroxide bond or a diazo, nitro, or nitroso radical, and wherein the chain may be substituted with at least one entity chosen from halogen atoms and hydroxyl, C₁-C₆ alkoxy, amino, mono-, di(C₁-C₆)alkylamino, and tri(C₁-C₆)alkylammonium radicals, and N-(C₁-C₆)alkylimidazolinium radicals;
- A is chosen from a covalent bond and alkylene chains comprising from 1 to 14 carbon atoms, wherein the chains may be linear, branched, saturated or unsaturated, and wherein at least one of the carbon atoms of the chain may optionally be replaced with an entity chosen from: onium radical Z, oxygen, sulphur, silicon and nitrogen atoms, and CO, SO, and SO₂ groups, wherein the alkylene chains may optionally be substituted with at least one entity chosen from: halogen atoms, hydroxyl, C₁-C₆ alkoxy, amino, (C₁-C₆)alkylamino, and di(C₁-C₆)alkylamino radicals;
- R₆ and R₇, which may be identical or different, are chosen from: hydrogen atoms; carboxyl radicals; (C₁-C₄)alkylcarboxyl radicals; carbamoyl radicals; (C₁-C₄)(alkyl)carbamoyl radicals; (dialkyl)carbamoyl radicals; tri(C₁-C₆)alkylsilane radicals; tri((C₁-C₆)alkyl)ammonium radicals; N-(C₁-C₆)alkylimidazolinium radicals; C₁-C₁₅ alkyl radicals; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one entity chosen from hydroxyl, (C₁-C₆)alkyloxy, amino, mono- and di(C₁-

C₆)alkylamino, thiol, and (C₁-C₆)alkylsulphonic radicals, and halogen atoms; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one radical chosen from carboxylic, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkoxycarbonyl, carbamoyl, mono- or di(C₁-C₆)alkylcarbamoyl, tri(C₁-C₆)alkylsilane, tri((C₁-C₆)alkyl)ammonium and N-(C₁-C₆)alkylimidazolinium radicals;

R₈ and R₉, which may be identical or different, are chosen from: hydrogen atoms; hydroxyl radicals; (C₁-C₄)alkyloxy radicals; amino radicals; mono- and di(C₁-C₄)alkylamino radicals; thiol radicals; carboxyl radicals; (C₁-C₄)alkylcarboxyl radicals; carbamoyl radicals; (C₁-C₄)(alkyl and/or dialkyl)carbamoyl radicals; tri(C₁-C₆)alkylsilane radicals; tri((C₁-C₆)alkyl)ammonium radicals; N-(C₁-C₆)alkylimidazolinium radicals; C₁-C₁₅ alkyl radicals; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one entity chosen from: hydroxyl, (C₁-C₆)alkyloxy, amino, mono- and di(C₁-C₆)alkylamino, thiol, and (C₁-C₆)alkylsulphonic radicals, and halogen atoms; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one radical chosen from: carboxylic, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkoxycarbonyl, carbamoyl, mono- and/or di(C₁-C₆)alkylcarbamoyl, tri(C₁-C₆)alkylsilane, tri((C₁-C₆)alkyl)ammonium, and N-(C₁-C₆)alkylimidazolinium radicals.

26. The composition according to Claim 25, further comprising at least one coupler chosen from meta-phenylenediamines, meta-aminophenols, meta-diphenols, naphthalene-based couplers, heterocyclic couplers, and the addition salts thereof.

27. The composition according to Claim 25, further comprising at least one additional oxidation base other than the at least one oxidation base of formula (I), chosen from para-phenylenediamines, bis(phenyl)alkylenediamines, para-aminophenols, ortho-aminophenols, heterocyclic bases, and the addition salts thereof.

28. The composition according to Claim 25, wherein the at least one oxidation base comprising a derivative of formula (I) is present in the composition in an amount ranging approximately from 0.001% to 10% by weight, relative to the total weight of the dye composition.

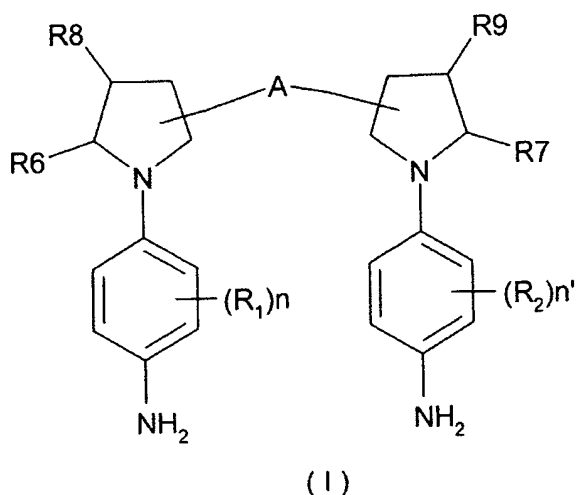
29. The composition according to Claim 27, wherein the at least one additional oxidation base that does not comprise a derivative of formula (I) is present in the composition in an amount ranging approximately from 0.001% to 10% by weight, relative to the total weight of the dye composition.

30. The composition according to Claim 26, wherein the at least one coupler is present in an amount ranging approximately from 0.001% to 10% by weight, relative to the total weight of the dye composition.

31. The composition according to Claim 25, further comprising a cosmetic medium that is suitable for dyeing keratin fibres.

32. A process for the oxidation dyeing of keratin fibres, comprising applying to the fibres, in the presence of at least one oxidizing agent, for a time that is sufficient to develop the desired coloration,

a dye composition comprising at least one oxidation base comprising at least one pyrrolidyl-substituted bis-para-phenylenediamine derivative chosen from derivatives of formula (I) and the corresponding salts thereof:



wherein:

- n and n' , which may be identical or different, are integers ranging from 0 to 4, wherein if either n or n' is greater than or equal to 2, then R_1 and R_2 may be identical or different;
- R_1 and R_2 , which may be identical or different, are each chosen from halogen atoms and C_1 - C_6 hydrocarbon-based chains which may be aliphatic, alicyclic, saturated or unsaturated, wherein at least one of the carbon atoms of the chain may optionally be replaced with at least one entity chosen from oxygen, nitrogen, silicon, and sulphur atoms, SO groups, and SO_2 groups, with the proviso that R_1 and R_2 do not comprise a peroxide bond or a diazo, nitro, or nitroso radical, and wherein the chain may be substituted with at least one entity chosen from halogen atoms and hydroxyl, C_1 - C_6 alkoxy, amino, mono-, di(C_1 - C_6)alkylamino, tri(C_1 - C_6)alkylammonium radicals, and N-(C_1 - C_6)alkylimidazolinium radicals;
- A is chosen from a covalent bond, and alkylene chains comprising from 1 to 14 carbon atoms, wherein the chains may be linear, branched, saturated or unsaturated, and wherein at least one of the carbon atoms of the chain may optionally be replaced with an entity chosen from: onium radical Z, oxygen, sulphur, silicon and nitrogen atoms,

and CO, SO, and SO₂ groups, wherein the alkylene chains may optionally be substituted with at least one entity chosen from: halogen atoms, hydroxyl, C₁-C₆ alkoxy, amino, (C₁-C₆)alkylamino, and di(C₁-C₆)alkylamino radicals;

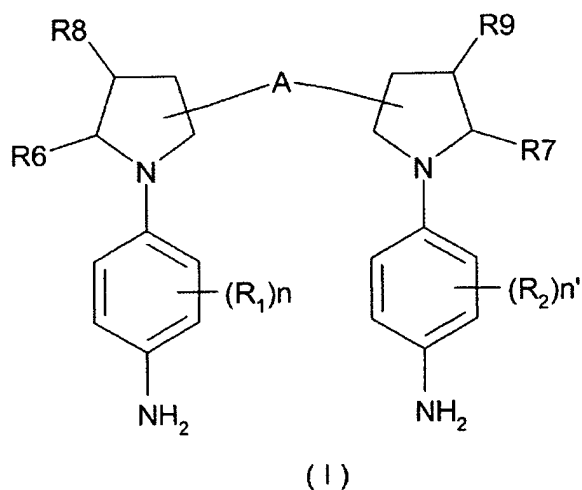
- R₆ and R₇, which may be identical or different, are chosen from: hydrogen atoms; carboxyl radicals; (C₁-C₄)alkylcarboxyl radicals; carbamoyl radicals; (C₁-C₄)(alkyl)carbamoyl radicals; (dialkyl)carbamoyl radicals; tri(C₁-C₆)alkylsilane radicals; tri((C₁-C₆)alkyl)ammonium radicals; N-(C₁-C₆)alkylimidazolinium radicals; C₁-C₁₅ alkyl radicals; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one entity chosen from hydroxyl, (C₁-C₆)alkyloxy, amino, mono- and di(C₁-C₆)alkylamino, thiol, and (C₁-C₆)alkylsulphonic radicals, and halogen atoms; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one radical chosen from carboxylic, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkoxycarbonyl, carbamoyl, mono- or di(C₁-C₆)alkylcarbamoyl, tri(C₁-C₆)alkylsilane, tri((C₁-C₆)alkyl)ammonium and N-(C₁-C₆)alkylimidazolinium radicals;

R₈ and R₉, which may be identical or different, are chosen from: hydrogen atoms; hydroxyl radicals; (C₁-C₄)alkyloxy radicals; amino radicals; mono- and di(C₁-C₄)alkylamino radicals; thiol radicals; carboxyl radicals; (C₁-C₄)alkylcarboxyl radicals; carbamoyl radicals; (C₁-C₄)(alkyl and/or dialkyl)carbamoyl radicals; tri(C₁-C₆)alkylsilane radicals; tri((C₁-C₆)alkyl)ammonium radicals; N-(C₁-C₆)alkylimidazolinium radicals; C₁-C₁₅ alkyl radicals; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one entity chosen from: hydroxyl, (C₁-C₆)alkyloxy, amino, mono- and/or di(C₁-C₆)alkylamino, thiol, and (C₁-C₆)alkylsulphonic radicals, and halogen atoms; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one radical chosen from: carboxylic, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkoxycarbonyl,

carbamoyl, mono- and/or di(C₁-C₆)alkylcarbamoyl, tri(C₁-C₆)alkylsilane, tri((C₁-C₆)alkyl)ammonium, and N-(C₁-C₆)alkylimidazolinium radicals.

33. The process according to Claim 32, wherein the at least one oxidizing agent is chosen from hydrogen peroxide, urea peroxide, alkali metal bromates, persalts, peracids, and oxidase enzymes.

34. A multi-compartment kit or device for the oxidation dyeing of keratin fibers, wherein at least one compartment comprises a dye composition comprising at least one oxidation base comprising at least one pyrrolidyl-substituted bis-para-phenylenediamine derivative chosen from derivatives of formula (I) and the corresponding salts thereof:



wherein:

- n and n' , which may be identical or different, are integers ranging from 0 to 4, wherein if either n or n' is greater than or equal to 2, then R_1 and R_2 may be identical or different;
- R_1 and R_2 , which may be identical or different, are each chosen from halogen atoms and C₁-C₆ hydrocarbon-based chains which may be aliphatic, alicyclic, saturated or unsaturated, wherein at least one of the carbon atoms of the chain may optionally be

replaced with at least one entity chosen from oxygen, nitrogen, silicon, and sulphur atoms, SO groups, and SO₂ groups, with the proviso that R₁ and R₂ do not comprise a peroxide bond or a diazo, nitro, or nitroso radical, and wherein the chain may be substituted with at least one entity chosen from halogen atoms and hydroxyl, C₁-C₆ alkoxy, amino, mono-, di(C₁-C₆)alkylamino radicals, tri(C₁-C₆)alkylammonium radicals, and N-(C₁-C₆)alkylimidazolinium radicals;

- A is chosen from a covalent bond, and alkylene chains comprising from 1 to 14 carbon atoms, wherein the chains may be linear, branched, saturated or unsaturated, and wherein at least one of the carbon atoms of the chain may optionally be replaced with an entity chosen from: onium radical Z, oxygen, sulphur, silicon and nitrogen atoms, and CO, SO, and SO₂ groups, wherein the alkylene chains may optionally be substituted with at least one entity chosen from: halogen atoms, hydroxyl, C₁-C₆ alkoxy, amino, (C₁-C₆)alkylamino, and di(C₁-C₆)alkylamino radicals;
- R₆ and R₇, which may be identical or different, are chosen from: hydrogen atoms; carboxyl radicals; (C₁-C₄)alkylcarboxyl radicals; carbamoyl radicals; (C₁-C₄)(alkyl)carbamoyl radicals; (dialkyl)carbamoyl radicals; tri(C₁-C₆)alkylsilane radicals; tri((C₁-C₆)alkyl)ammonium radicals; N-(C₁-C₆)alkylimidazolinium radicals; C₁-C₁₅ alkyl radicals; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one entity chosen from hydroxyl, (C₁-C₆)alkyloxy, amino, mono- and di(C₁-C₆)alkylamino, thiol, and (C₁-C₆)alkylsulphonic radicals, and halogen atoms; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one radical chosen from carboxylic, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkoxycarbonyl, carbamoyl, mono- or di(C₁-C₆)alkylcarbamoyl, tri(C₁-C₆)alkylsilane, tri((C₁-C₆)alkyl)ammonium, and N-(C₁-C₆)alkylimidazolinium radicals;

- R₈ and R₉, which may be identical or different, are chosen from: hydrogen atoms; hydroxyl radicals; (C₁-C₄)alkyloxy radicals; amino radicals; mono- and di(C₁-C₄)alkylamino radicals; thiol radicals; carboxyl radicals; (C₁-C₄)alkylcarboxyl radicals; carbamoyl radicals; (C₁-C₄)(alkyl and/or dialkyl)carbamoyl radicals; tri(C₁-C₆)alkylsilane radicals; tri((C₁-C₆)alkyl)ammonium radicals; N-(C₁-C₆)alkylimidazolinium radicals; C₁-C₁₅ alkyl radicals; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one entity chosen from: hydroxyl, (C₁-C₆)alkyloxy, amino, mono- and di(C₁-C₆)alkylamino, thiol, and (C₁-C₆)alkylsulphonic radicals, and halogen atoms; C₁-C₁₅ alkyl radicals which may optionally be unsaturated and/or substituted with at least one radical chosen from: carboxylic, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkoxycarbonyl, carbamoyl, mono- and/or di(C₁-C₆)alkylcarbamoyl, tri(C₁-C₆)alkylsilane, tri((C₁-C₆)alkyl)ammonium, and N-(C₁-C₆)alkylimidazolinium radicals,
and at least one compartment comprising at least one oxidizing agent.